INSTRUCTIONS
FORM F11a
FUGITIVE DUST-ROADS

Department of Environmental Quality
Division of Air Quality
P.O. Box 144820
Salt Lake City, UT 84114-4820
Telephone (801) 536-4000

DAQ ID	For office use only.
Pt. Source ID	Provide the identification number associated with the road.
SCC	Enter the appropriate Source Classification Code (SCC). See the General Instructions for explanation.
Road Description	Give a description of the road. Example: haul road, access road.
Road Type	List the type of the road. Example: dirt, gravel, or paved.
Public/Private Road	List whether or not usage is on public or private roads.
Vehicle Miles Traveled/year	Give vehicle miles traveled over these roads per year. Values should include all company usage.
Avg. Vehicle Speed	Provide the vehicle average travel speed over the road in miles per hour.
Control Method Code	Use the following control codes for dust suppression: 000. None; 061. Water emissions spray; 062. Chemical stabilization, and 099. Others (please specify in the Comment column).
% Control Efficiency	Percent of control by watering or other treatment.
# of Applications	List the number of applications per year used to stabilize road surface.
% Silt Content	Percent of silt content of the road surface material.
Loaded Vehicle Weight	DOT limitation for highway travel.
Empty Vehicle Weight	DOT limitation minus normal load.
Mean # of Wheels	Provide the average number of wheels per vehicle.
Emissions	Enter the estimated or calculated emissions in tons per year. **Provide complete calculations on a separate sheet.**
Emission Code	Provide the valid method code for quantifying actual emissions of each pollutant. The valid method codes are listed in Table II of the General Instructions. These are the only codes which will be accepted. If the Estimate Code 8 (AP-42 factors) is used, please provide the section number

	of AP-42 in the Comment column.
Emission Factor	Provide the emission factors used in the calculations.
Units	Appropriate units associated with the emission factor.

Suggested Equations

Unpaved Roads

$$E.F. = \frac{k(\frac{s}{12})^{0.8}(\frac{W}{3})^{0.4}}{(\frac{M}{0.2})^{0.3}}$$

Where:

E.F. = Emission Factor (lbs/VMT)
k= particle size multiplier ($PM_{2.5}$: 0.38 and PM_{10}: 2.6)
s= silt content of surface (entered as %, ie. 5 rather than 0.05)
W= mean vehicle weight (tons)
M= surface material moisture content (%)
Reference: AP-42 Section 13.2.2

Industrial Paved Roads

$$E.F. = k(\frac{sL}{2})^{0.65}(\frac{W}{3})^{1.5}$$

Where:
E.F. = Emission Factor lb/VMT
k= size multiplier ($PM_{2.5}$: 0.004 and PM_{10}: 0.016)
sL= surface silt loading (g/m^2)
mean silt loading estimates for various industries:
copper smelting: 292 g/m^2
iron and steel production: 9.7 g/m^2
asphalt batching: 120 g/m^2
concrete batching: 12 g/m^2
sand & gravel operations: 70 g/m^2
municipal solid waste landfill: 7.4 g/m^2
quarry: 8.2 g/m^2
W= average weight of the vehicle traveling the road
Reference: AP-42 Section 13.2.1